

→ 4.0 Guide to the Examples

Number	Name	Used in Example number:
5B	MRET	2 3 8 9 10 13
5C		8
5D		1 4 6 12
5E		6
5F		6 12
60		4 5
61		11
62	IN	.
63		5 7 12
64		7
65		9 10 11
66		3 5 7 10
67		3
68		3 4 5
69		7
6A		1 4 5
6B		1
6C		3 5
6D		12
6E	XOUT	.
6F		11
70		.
71		10
72		9 10
73		.
74		.
75		.
76		.
77		.
78		.
79		5
7A		3
7B		1 9 10
7C		2
7D		.
7E		.
7F		.
RST 0	START	.
RST 8	RIN	.
RST 10	RCAL	14
RST 18	SCAL	all
RST 20	BRKPT	.
RST 28	PRS	1 2 3 5 7 10
RST 30	ROUT	1 10
RST 38	RDEL	10

4.1 PROGRAM 1

Shows the use of routines BLINK,CRLF,ERRM,PRS,RIN,ROUT, and TDEL.

The program simply prompts the user to press one of the keys 0,1 or 2. The character corresponding to the pressed key is displayed together with the message 'Error' if it was not a valid input. After a delay the program restarts.

The program begins, line 130, by using PRS to prompt the user to press 0,1, or 2. Note that the display control characters, OCH (clear screen) and ODH (newline) are incorporated into the string displayed by PRS.

At line 170 the program waits for a character from one of the devices in the input table (normally the keyboard and serial input). The input character in register A is saved by transferring it to register C because the following PRS routine at line 190 will change the contents of register A. This PRS routine is used to display 'You entered ' without a following new line so that the entered character, now back in register A is output to the devices in the output table using ROUT, line 230. A new line is generated by CRLF at line 240.

~~250-310~~
Lines ~~250-290~~ check the validity of the entered character and direct program control either to line ~~310~~³³⁰ or ~~320~~³⁴⁰. The error message is displayed using ERRM, a new line generated by CRLF, and a delay produced by TDEL.

Note that the call to BLINK, line 170, may be replaced by RST RIN. The cursor will then not be blinked while waiting for an input.

Listing of Program 1

```

0010 ;PROGRAM 1
0020 ;
2D00 0030 ORG 2D00H
0040 ;
0050 ;Table of NAS-SYS subroutine numbers.
2D00 007B 0060 BLINK EQU 7BH
2D00 006A 0070 CRLF EQU 6AH
2D00 006B 0080 ERRM EQU 6BH
2D00 0028 0090 PRS EQU 28H
2D00 0030 0100 ROUT EQU 30H
2D00 005D 0110 TDEL EQU 5DH
0120 ;
2D00 EF 0130 START RST PRS
2D01 0C 0140 DEFB 0CH ;Clear screen.
2D02 50726573 0150 DEFM /Press 0,1,or 2.../
7320302C
312C6F72
20322E2E
2E
2D13 0D00 0160 DEFB 0DH,0 ;New line,End
2D15 DF7B 0170 SCAL BLINK ;Wait for input.
2D17 4F 0180 LD C,A ;Save character.
2D18 EF 0190 RST PRS
2D19 596F7520 0200 DEFM /You entered /
656E7465
72656420
2D25 00 0210 DEFB 0
2D26 79 0220 LD A,C ;Get saved char.
2D27 F7 0230 RST ROUT ;Output character
2D28 DF6A 0240 SCAL CRLF ;Carriage Return
0250 ;Check for valid input.
2D2A 79 0260 LD A,C ;Get saved char.
2D2B FE33 0270 CP 33H ;If > 33H,
2D2D 3006 0280 JR NC,ERROR ;then error.
2D2F E6F0 0290 AND 0F0H ;If 3xH,
2D31 FE30 0300 CP 30H ;then
2D33 2802 0310 JR Z,CONT ;continue,else
0320 ;
2D35 DF6B 0330 ERROR SCAL ERRM ;error.
2D37 DF6A 0340 CONT SCAL CRLF
2D39 DF5D 0350 SCAL TDEL ;Long delay.
2D3B 18C3 0360 JR START

```


4.2 PROGRAM 2

Program 2 illustrates the use of CPOS together with display control commands within a PRS string.

The program simply draws a rectangle on the display, positions the cursor in the middle of the rectangle, and then returns to NAS-SYS.

The lines are drawn using PRS with strings which include cursor control characters together with the characters to be used to form the line. The position of the cursor is saved on the stack at line 290, workspace location CURSOR holding the current position. The position saved is that of the top left-hand corner of the rectangle.

The top horizontal line is drawn at line 320 and the right-hand vertical at line 330. The cursor position is now at the bottom right-hand corner of the rectangle. In order to draw the bottom horizontal, the cursor must be positioned to the left-hand end of the line; this is done in lines 340-390. The current cursor position is loaded into register pair HL and a call made to CPOS. This routine returns with HL containing the address of the start of the line. This value is incremented (to bring the start of the line away from the edge of the display) and the value loaded into location CURSOR. The cursor position is now the bottom left-hand corner of the rectangle and the line may be drawn.

At line 430, the position of the top left-hand corner of the rectangle, which was saved in lines 290-300, is popped off the stack and loaded into CURSOR. The left-hand vertical line is then drawn.

Finally, at line 490, the cursor is positioned towards the middle of the screen so that when the return to NAS-SYS is made in line 510, the logo appears in the middle of the rectangle.

Listing of Program 2

	0010 ;PROGRAM 2	
	0020 ;	
2D00	0030	ORG 2D00H
	0040 ;	
2D00 000C	0050 CLS	EQU 0CH ;Clear screen code.
2D00 0014	0060 CUD	EQU 14H ;Cursor down code.
2D00 0011	0070 CUL	EQU 11H ;Cursor left code.
2D00 0012	0080 CUR	EQU 12H ;Cursor right code.
	0090 ;	
	0100 ;NAS-SYS subroutine numbers.	
2D00 007C	0110 CPOS	EQU 7CH
2D00 0028	0120 PRS	EQU 28H
2D00 005B	0130 MRET	EQU 5BH
	0140 ;	
	0150 ;NAS-SYS memory location.	
2D00 0C29	0160 CURSOR	EQU 0C29H
	0170 ;	
	0180 ;	
	0190 ;	

4D2
SMW4